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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,945

12/12/2006

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EXAMINER

CALLAWAY, JADE R

ART UNIT

PAPER NUMBER

2872

NOTIFICATION DATE

DELIVERY MODE

11/12/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@SUGHRUE.COM  
PPROCESSING@SUGHRUE.COM

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,945	<b>Applicant(s)</b> OGASAWARA, MASAKAZU	
	<b>Examiner</b> JADE R. CALLAWAY	<b>Art Unit</b> 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-25 is/are pending in the application.
- 4a) Of the above claim(s) 12-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendments to the claims and the abstract of the specification, in the submission dated 8/20/09, are acknowledged and accepted.

### ***Response to Arguments***

2. Applicant's arguments filed 8/20/09 have been fully considered but they are not persuasive. Applicants argue that the prior art cited does not disclose "a holographic recording layer that reserves an optical interference pattern comprising components of coherent reference light and signal light as a diffractive grating therein; and a two-dimensional recording layer...wherein the two-dimensional recording layer is disposed on a side of a light irradiation face of the holographic recording layer." The Examiner respectfully disagrees and notes that Ueda et al. teaches multiple two-dimensional holographic recording layers (e.g. 52, 53, holographic sensitive material) that records an interference pattern comprising components of coherent reference light and signal light as a diffractive grating therein; wherein one of the two-dimensional recording layers is disposed on a light irradiation face of the holographic recording layer (e.g. layer 53 is on a light irradiation face of holographic recording layer 52). The recording layers of Ueda et al. are two-dimensional in that they have extent in the x-dimension and y-dimension.

Applicants also argue that the Keshner and Ueda references are not related as hologram recording carriers. In response to applicant's argument that the cited references are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the

particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the Keshner and Ueda references are related as solving similar problems of efficiently recording data for storage purposes. Further it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Keshner et al., as taught by Ueda et al., so that a multiple color hologram can be formed at a low cost. The storage methods of Ueda allows a person to record additional information as compared to the Keshner system.

The Examiner notes that the Official Notice taken in Section 13 of the Office Action dated 5/21/09 (See specifically claims 6-8) has been taken to be admitted prior art since Applicants failed to seasonably traverse the assertion of Official Notice (See MPEP 2144.03). In response to Applicant's arguments that Hays does not disclose that the servo blocks could be end marks or address marks; the Examiner notes that it is well known that servo blocks provide feedback to help control mechanical position or other parameters. End marks and address marks are examples of various parameters that can be recorded in the medium so that feedback can be provided to control mechanical position of the optical device. Further, one of ordinary skill in the art at the time the invention was made would have been motivated to have the servo blocks contain information relating to end marks and address marks so that the position of the optical disk can be controlled to record/reproduce high quality holograms.

***Information Disclosure Statement***

3. The information disclosure statement filed 4/28/08 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information crossed out therein has not been considered.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keshner et al. (6,310,844) in view of Ueda et al. (7,132,200).

Consider claim 1, Keshner et al disclose (e.g. figure 1) a record carrier having a substrate (114, reference layer) and a reflective layer (115, reflective coating), wherein recording or reproducing of information is performed by light irradiation, characterized by comprising: a two-dimensional recording layer (106, data layer) whose physical property changes in response to light intensity [col. 4, line 31 to col. 5, line 15].

However, Keshner et al. do not disclose that the recording layer comprises two layers wherein one of the layers is a holographic recording layer that reserves an optical interference pattern comprising components of reference light and signal light as a

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diffraction grating therein; wherein the two dimensional recording layer is disposed on a light irradiation face of the holographic recording layer. Keshner et al. and Ueda et al. are related as recording devices. Ueda et al. teach (e.g. figures 12-13) a holographic recording layer that comprises a layer (e.g. 52, holographic sensitive material) that reserves an optical interference pattern comprising components of coherent reference light and signal light as a diffraction grating therein; wherein a two-dimensional recording layer (53, holographic sensitive material) is disposed on a light irradiation face of the holographic recording layer (52, holographic sensitive material) [col. 9 line 39 to col. 10, line 41]. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Keshner et al., as taught by Ueda et al., so that a multiple color hologram can be formed at a low cost.

Consider claim 2, the modified Keshner et al. reference discloses (e.g. figures 12-13 of Ueda et al.) a hologram record carrier wherein the optical interference pattern is produced by a first light beam (e.g. green light beam) so that a hologram is recorded (in layer 52, holographic sensitive material), and the two-dimensional recording layer (53 of Ueda et al.) senses a second light beam (e.g. red light beam) so that a mark is recorded according to change of the physical property [col. 4, line 31 to col. 5, line 15 of Keshner et al. and col. 9, line 39 to col. 10 line 41 of Ueda et al.].

Consider claim 3, the modified Keshner et al. reference discloses (e.g. figures 12-13 of Ueda et al.) a hologram record carrier wherein the holographic recording layer (52, holographic sensitive material) has a sensitivity to a wavelength of the first light beam (green light beam), and the two-dimensional recording layer (e.g. 52 of Ueda et

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al.) is a pigmented coat [col. 8, lines 42-67, col. 10, lines 45-61]. However, the modified Keshner et al. reference does not disclose that the wavelength of the first light beam is higher than the wavelength of the second light beam. Note that the Court has held that shifting the location of an element is obvious; see **In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950)** and **In re Kuhle, 526 F.2d 553, 188 USPQ (CCPA 1975)**. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to shift the location of the holographic recording layers so that the layer sensitive to red light was the first layer and the layer sensitive to green light was the second layer, since it has been held that a mere rearrangement of an element without modification of the operation of the device involves only routine skill in the art. Further, one would have been motivated to rearrange the layers in order to have a different primary color be dominate in the holographic display.

Consider claim 9, the modified Keshner et al. reference discloses (e.g. figures 2 and 4 of Keshner et al.) a hologram record carrier wherein the reflective layer (115, reflective coating) has tracks (200, spiral tracks) extending such that they separate from each other without crossing one another for tracking a spot of the light beam that passes from an objective lens (118, objective lens) through the holographic recording layer and the two-dimensional recording layer to be focused [col. 6, lines 22-40 of Keshner et al.].

Consider claim 10, the modified Keshner et al. reference discloses (e.g. figures 2 and 4 of Keshner et al.) a hologram record carrier wherein the tracks (200, spiral tracks) are formed spirally.

Consider claim 11, the modified Keshner et al. reference discloses (e.g. figures 2 and 4 of Keshner et al.) a hologram record carrier wherein the tracks are formed in parallel (the tracks do not intersect).

6. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keshner et al. (6,310,844) in view of Ueda et al. (7,132,200) as applied to claim 1 above, and further in view of Hays et al. (5,777,760).

Consider claims 6-8, the modified Keshner et al. reference does not disclose a hologram record carrier wherein an end mark, address mark or relational mark indicating an end of a hologram, address of a hologram, information relating to a hologram is recorded on the holographic recording layer at a portion of the two-dimensional recording layer laminated on a portion of the holographic recording layer with the hologram group or group of holograms. Keshner et al., Ueda et al., and Hays et al. are related as recording devices. Hays et al. teaches (e.g. figures 2-3) a hologram record carrier that includes servo blocks (relational marks) recorded on a two-dimensional recording layer carrying information relating to a hologram on a holographic layer [col. 4, lines 4-11, col. 4, line 65 to col. 5, line 15]. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of the modified Keshner et al. reference, as taught by Hays et al., so that position feedback information can be recorded and replayed in a holographic medium. Official Notice is taken. Although Hays et al. does not specifically disclose that the servo blocks could be end marks indicating an end of a hologram, an address mark indicating an address of a hologram; it is well known that servo blocks provide feedback to help



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control mechanical position or other parameters. End marks and address marks are examples of various parameters that can be recorded in the medium so that feedback can be provided to control mechanical position of the optical device. Further, one of ordinary skill in the art at the time the invention was made would have been motivated to have the servo blocks contain information relating to end marks and address marks so that the position of the optical disk can be controlled to record/reproduce high quality holograms.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **JADE R. CALLAWAY** whose telephone number is (571)272-8199. The examiner can normally be reached on Monday to Friday 6:00 am - 3:30 pm est.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRC  
/JADE R. CALLAWAY/  
Examiner, Art Unit 2872

/Arnel C. Lavarias/  
Primary Examiner, Art Unit 2872